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THE EDUCATIONIST.

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Editorial.

We are pleased to note the fact that many of the newspapers of the State and country are devoting a good deal of space to the discussion of Educational questions. Certainly at no time in the history of our own State has there been half so much accomplished in the same length of time as in the past six months. Men engaged in the work of education are just beginning to find out that the reliable country newspaper is about the only medium through which the masses can be reached. It is well that we have learned so important a lesson, and it will be well for the cause if we shall resolve to profit by it. Of the hundred and odd members of the General assembly to be elected in a few months, a large majority will be elected by a constituency that can only be reached through the medium of the country press. If, therefore, we are to secure in the near future what experience has shown to be so essential to perfection of our public school system, we shall do so by a wise use of the means at our command, and this among the others. Besides, it is not more important to secure favorable legislation in the future than to save that which has already been gained. We urge then a liberal use of the country newspaper. No issue of any such publication should be allowed that does not contain its carefully prepared "Educational column."

THE first volume of the EDUCATIONIST closes with this number. As we review the work of the past year we find cause for gratification and encouragement. We entered upon a field heretofore unoccupied by any journal in this State, but which we believed would be more fruitful than any other if properly cultivated. How to cultivate it was the problem. The principal source of error among teachers, as we think, is the want of a thorough understanding of the foundation principles of the subjects taught, and an inability to advance logically in the development of them. They seem to care more for methods than for the thoughts, of which the methods are but one expression. In order to show clearly the method of the development of a subject from certain intuitive or axiomatic truths upon which it is based, we secured the services of some able men to write series of papers upon Arithmetic, Psychology, Morals, and some other subjects. None of these are yet completed, but all have progressed far enough to convince the most thoughtless person *who has read them*, that there is a preparatory work for most teachers to do before they are fitted to teach the elementary branches, of which they formerly had no conception. We shall prove, if we have not already done so, that the teacher who is qualified to do the work required of him, is not the man or the woman who is qualified for nothing else, but that it is the man or the woman who is qualified for anything else. In other words, there is a severe mental training which the teacher must receive in order to do his work efficiently, that would fit him for any other vocation as well. It is the necessity for this deeper and fuller understanding of things, and for this broader knowledge, that it has been and will continue to be the business of the EDUCATIONIST to urge. While this is our leading aim, we shall not neglect to publish such matters of general interest pertaining to school affairs as may come to our knowledge. We hope to make our paper eminently practical, in the best sense of that term. We have received gratifying encouragement and support, and we confidently ask for a continuance of the same, and that our friends will assist us in extending our circulation. Our list of contributors will be increased during the coming year, and we shall as early as possible increase the size of our journal. We think, however, that we give more and better reading matter for one dollar than many others do for one dollar and a half.

AUTOBIOGRAPHY BY JOHN STUART MILL.

This remarkable book which contains a detailed account of a much more remarkable education, should be carefully read by every teacher. Mr. Mill, before he was eight years old, had read in the original Greek the whole of Herodotus, Xenophon's Cyropœdia and Anabasis, the Memorials of Socrates, the first six dialogues of Plato, besides a large number of histories, including those of Hume, Gibbon and Rollin, as well as such books as Millar's Historical View of the English Government, Mosheim's Ecclesiastical History, etc. He

commenced Latin in his eighth year, and before he was twelve years of age he seems to have become proficient in both of these ancient languages, at least so far as to be able to read them with ease. In short, he completed what would be regarded as a full College course, besides having learned a great deal that is never taught in most Colleges, before he was twelve years old.

We cannot give here all the methods adopted by his instructor. We wish to refer to one, however, which seems worthy of special consideration. It was the custom of his father, who was his teacher, to require John Stuart to pursue a course of historical or philosophical reading aside from his regular lessons, and each morning, while on their morning walk, to tell to him the story from brief notes taken while reading. Later in the progress of the instruction, discussions would arise in which the boy was led to detect the fallacies of the author, and was encouraged to form and express opinions of his own upon the theme.

To this more than to any other thing, except the fact that Mr. Mill possessed unusual natural capabilities, we attribute his subsequent greatness. His father was a master of psychological science, and the close, accurate analysis which he required of every subject was the best possible preparation which the boy could receive, to fit him for the great work he was subsequently called upon to do.

The lesson of requiring the pupil to do his best by imperatively demanding of him all and sometimes more than he is able to do, and also that this best shall be done methodically and logically, are the valuable lessons which the book gives to the teacher.

STATE UNIVERSITY.

Since our last issue, a long step has been taken towards the removal of the State University to this city. The citizens and press of Indianapolis were first to move in the matter, and they have been heartily seconded by the press in every part of the State. The State Board of Education have so far interested themselves in the matter as to memoralize Congress, asking that body to dispose of the arsenal grounds owned by the United States Government, to the State of Indiana upon such terms as may seem proper, for the erection of buildings thereon for a Polytechnic School. If this can be secured, the next step will be the removal of the State University, by which will be established at once the Classical, Medical, Normal, and Law Departments, and the other schools will be added as the demand increases and the necessary money is supplied. There is every reason why a large and flourishing school, in which all the arts and sciences shall be thoroughly taught, and which shall be the rival of Cornell or Michigan University, or even of Harvard, shall be established in Indianapolis. Will not all who desire to see our noble commonwealth take that advanced position in learning, that she is certain to take in commerce, give their influence and their votes for this cause?

The following is the memorial of the State Board of Education:

INDIANAPOLIS, March 12, 1874.

To the Senate and House of Representatives of the Congress of the United States:

The Board of Education of the State of Indiana would respectfully represent that,

WHEREAS, Said property having been appropriated and used for public purposes, the people of the State would be much disappointed at its sale for private purposes, and

WHEREAS, There is no polytechnic institution in this State, and as these grounds are admirably adapted to the use of such an institution; therefore,

Resolved, That this Board respectfully and earnestly remonstrate against the sale of said property, and pray your honorable bodies to grant the same to the State of Indiana for the public use above suggested upon such terms as may be deemed just and proper.

THE STATE NORMAL.

The spring term of this flourishing school promises to be very generally attended. There are few institutions in the country that can boast of so continued and extended a growth in popular favor as this. Starting but a short time ago with hardly more than a score of students, it has worked steadily on, quietly and without pretension, until it is able to command the praise and support of all intelligent persons who are acquainted with its work. Its influence is felt in almost every part of the State, not only through the graduates that it has sent forth, and the under graduates that have remained long enough to catch the thought and spirit of the work, but also through the inspiration that it has given to the older teachers in the State, who are, each in his own way, striving to attain to a fuller mastery of the science of education. There are few normal schools, in fact we know of none, that adhere so closely to the object for which they were created, as this does. It is strictly a school for professional training. We do not mean by this a school of methods, for it gives the most careful and thorough academic instruction; but the underlying thought everywhere is, a thorough mastery of every subject, with a view of imparting instruction in the same to others. Therefore none are admitted except those who will pledge themselves to teach in the State twice as long as they attend the school, if it is practicable for them to do so.

The following preamble and resolution adopted by the State Board of Education at the March session express concisely and forcibly the principles by which the Normal School is governed:

WHEREAS, It has been, and is now, the policy in the management of the State Normal School, to admit no student to the privileges of the institution who does not in good faith intend to better qualify himself for teaching in the common schools; and

WHEREAS, No student is permitted to enter that institution, whatever his scholastic and professional antecedents may be, except by examination on the subjects required by the law to be taught by the common schools of the State; and,

WHEREAS, No student is permitted to omit the study of any of the subjects above alluded to, till he shall be able to pass such an examination on the subject matter of the studies referred to, and on the methods of teaching them, as will satisfy the requirements of the institution; and,

WHEREAS, For the special reasons determined by the faculty of the institution, a student is permitted to remain a member of a class during its progress through the institution whose scholarship at the end of the course will not entitle him to the certificate of graduation; and,

WHEREAS, No student is permitted to remain a member of the school who shows by his conduct a degree of moral turpitude, and such blunted moral sensibilities as render it improbable that he will attain the moral culture and the exalted appreciation of his work, as will make him a proper teacher of the young; and

WHEREAS, No fictitious means have ever been employed to draw students to the institution through which the public is imposed upon, and by leading the people to think that the true mission of a professional or literary institution is being fulfilled simply on the ground of the attendance of a large number of students rather than on the ground of the perfection of their work and the spirit which it inspires in the graduatory; therefore,

Resolved, That we, the State Board of Education, most heartily endorse the policy of the State Normal School, for the reason that, in our judgment, the true end of the school, as contemplated by the legislative act by which it was created, is being realized. In our judgment, the educational interests of the people are being protected, and the standard of school instruction is being elevated.

Contributions.

EDUCATIONAL PSYCHOLOGY.—No. III.

BY WM. T. HARRIS.

ON THE COURSE OF STUDY.

To discover precisely what the pupil gets from studying a particular branch—what he adds to his mental structure in the way of discipline and knowledge—is one of the problems of educational psychology. Without determining accurately the value of a given study by ascertaining what the pupil is to gain from it in the way of information that shall make clear his view of life, or in the way of discipline that shall increase his strength to grapple with other problems, the educator is not in a condition to decide where it belongs in the course of study, or how much time it demands. Indeed it may be said that the want of such preliminary investigation has injured our educational system, and *is* injuring it fully as much as all other causes combined. It is owing to the lack of psychological insight that we have so many changes in theories and systems, so much advocacy of one-sided extremes. Caprice and arbitrariness determine the choice of this or that study. The likes and dislikes of the teacher settle the course of the pupil; the whim of the parent is allowed to do the same thing.

It is my intention to contribute, in this and succeeding articles, to the psychology of the course of study. In my last article, treating of the study of the classics, an attempt was made to indicate some of the psychological reasons for the large place such study holds in the curriculum of our higher education. When Latin was the language of the learned, its paramount importance in education was not questioned. It is at first somewhat surprising to discover that it is still the language of the learned who speak English, for the reason that the vocabulary of science, of refined culture, and of abstract thought or generalization, is nearly all of Latin derivation. But more important than this is the subtle, spiritual gain derived from the increase of mental strength to analyze and combine the elements of human interests—still more important, the clearing up of the view of human life, the certainty of conviction obtained by the contemplation of human nature in its evolution through long intervals of time.

Our inquiry will lead us to investigate the two-fold division of branches in the course of study into disciplinary and information-giving ones; the elementary branches taught in Common Schools and the more advanced studies of the High School and College. What psychology teaches us in regard to the elementary branches must first be seen; in its light we can then discuss the continuation of the same by the High School and College; we can also decide the extent to which the desire of discipline or information should lead us in selecting the branches to be pursued.

The "elementary branches" alluded to are:

I. Reading and writing—the mastery of letters.
II. Arithmetic.
III. Geography.
IV. Grammar.
V. History.

In order to show the exhaustiveness with which these studies occupy the field both subjectively and objectively, let us reclassify these studies under a new order.

The theoretic survey of the world—and intellectual education must undertake to give this—reaches into two realms, the world of matter or nature, the world of humanity or spirit. Theoretically considered, nature falls into inorganic and organic, and the sciences corresponding to these are physics and natural history. Physics (including chemistry) treats of the inorganic phases of nature, all of which may be treated mathematically or quantitatively. Natural history treats nature's organic phases: Meteorology, geology, botany, zoology and ethnology. Mathematics determines the abstract *a priori* laws of time and space. Time and space are the abstract logical conditions of nature. Mathematics is the general preliminary science of nature which fixes and defines the conditions of nature in the abstract. Mathematics, physics and (organics or) natural history form the theory of nature. The first and second (mathematics and physics) treating nature analytically or by elements, the third treating nature synthetically as exhibited in organic forms.

The world of humanity or spirit is distinguished from that of nature by means of this mark or characteristic: it everywhere is self-determined by a conscious purpose while mere nature obeys laws unconsciously. Spirit is an end to itself. Nature's forms are ruled and swayed by external ends. By "external" ends, I mean purposes, designs or objects which are not consciously formed in thought—not self-proposed by the being whose end and aim they express. Man can form for himself a purpose; he can think his own final cause, and he alone can think out and discover the final cause of a merely natural being, an unconscious being.

The theory of man includes three phases: 1st. Theory of man as a practical being, a will-power, a moral being acting socially and politically; a history-maker. 2d. Theory of man as a theoretical being, a thinking power, a rational being, giving an account to itself of the world and itself in short a science-maker. 3d.

Theory of man as an artist or as a being that represents itself, embodies its ideal in real forms, makes the visible world into its own image, in short, as the producer of art and literature. (A fourth sphere—that of religion, the obverse of art, a realm wherein man strives to elevate himself above all visible forms to the Absolute Ideal through devotion and worship, will occur to the thoughtful classifier. It is so important that it belongs to an education apart from the rest, a sacred education to be found within the Church and not side by side with other branches in secular education.)

To tabulate our results we find for the total theoretic survey of the world the following:

Nature.	Inorganic.	Mathematics.	
		Physics (and Chemistry.)	
	Organic.....	Natural History.	
Man or Spirit.	Practical or will-power.	History,	
		Political and Social.	
	Theoretical or thinking power.	Logic, Philosophy,	
		Philology.	
	Æsthetic or art-power.	Literature and Art.	

Our elementary branches distribute according to this general survey as follows:

I. Nature Inorganic—Arithmetic.
II. " Organic—Geography.
III. Man—Practical—History.
IV. " Theoretical—Grammar.
V. " Æsthetic—Reading (literature.)

That these branches lie at the basis and open first and directly out of the mind upon the world, will be evident upon a little consideration. It will also become clear that these are the only branches which lie directly at the door of the uncultivated mind.

PAPERS ON ARITHMETIC—PART II.

NO. IX.

OUTLINE OF A COURSE, ETC.—SECOND YEAR'S WORK.

Objects to be attained.

1. Arabic notation to 10.
2. A knowledge of numbers to 100 and their notation.
3. A knowledge of simple and of local values of figures.
4. Combination and separation to 60.
5. The meaning of the signs +, —, and =.

Remark. Limited space forbids the giving of detailed plans for attaining all the above objects. The earnest teacher will readily devise plans by modifying and adapting the suggestions already given. *Do not attempt too much at a time. Review and drill frequently and thoroughly.*

ARABIC NOTATION TAUGHT.

Thus far in the work indicated any number from *one* to *ten* has been represented by a corresponding number of marks on the board or slate.

Short examples and simple problems have been solved. The mind of the pupil is now sufficiently developed to learn and apply the arbitrary characters used to represent numbers.

In giving a series of lessons on notation, the teacher may begin with any figure; it is perhaps better to begin with such as express the greater numbers, for by so doing the pupil will more readily see the necessity for using figures.

OUTLINE OF LESSON I. IN NOTATION.

General object.—To teach the recognition of figures as the signs of numbers.

Specific object.—To form on the mind of the pupil a conception of the *form, signification,* and *name* of the figure "10."

Note. "10" is called a *figure* because its *form* suggests or represents the number *ten* as effectually as does "9" suggest the number *nine.* If teachers object to calling "10" a figure, or form representing ten objects, they may begin this series of lessons by teaching "9" or any of the other characters, and may afterwards teach "10" as composed of *two figures,* one of which represents no value, while the other represents two values, one by its *form,* and the other by its *place;* thus giving rise to the idea of simple and of local values of figures.

Plan. 1. *Review.*—Require the pupil to name numbers and to represent them by marks on the board or slate.

2. *Advance. a. Need of figures.* 1. Require the pupil to make ten marks in a given time. The pupil attempts it, but finds that he has not sufficient time to do as he is required.

2. Require him to make ten marks of a given size in a given space. The pupil attempts it but finds that there is not "room" enough to do as he is required. From the above devices (which the writer does not claim as original with himself) the pupil is led to state that time and space might be saved by having a shorter way of expressing *ten.*

b. The *figure* "10" may then be given a short way of expressing *ten.*

c. Exercise the pupil upon the lesson and assign work involving the use of the figure "10."

Note 1. The remaining figures, viz: 9, 8, 7, 6, 5, 4, 3 2, 1, are to be taught in this series of lessons. The plan for teaching any or all of them may vary from that suggested for teaching "10," as the teacher may deem advisable.

Note 2. In multiplying and dividing in this year's work, use 1's, 2's, 3's, and 4's as multipliers and divisors.

THIRD YEAR'S WORK.

Objects to be attained.

1. A knowledge of numbers to *one hundred thousand,* and their notation and numeration.

2. Addition and Subtraction (alternately as heretofore suggested,) to *one thousand.*

3. Multiplication and Division by 5's, 6's, 7's, and 8's. No result in Multiplication exceeding 1,000, nor in Division 500.

4. The meaning of the signs $\times$ and $\div$.

Note. As already suggested, require the pupils to solve numerous practical business problems given by the teacher or found in the books. Also, require the pupils to construct problems for others of the class to solve.

FOURTH YEAR'S WORK.

Objects to be attained.

1. Notation and numeration to *Billions.*

2. Addition and Subtraction to *Millions.*

3. Multiplication and Division by numbers from 8 to 12.

4. Definition of terms used in Addition, Subtraction, Multiplication and Division.

5. Recognition and formal statement of the intuitive and necessary principles which condition those operations and are involved in them.

Remark 1. A prominent object to be kept in view throughout this course is the application of the knowledge attained to such business transactions as the pupil can comprehend. The pupil should, therefore, be exercised daily in the solution of simple, yet practical problems. During the greater part of this stage of development, the perceptive faculty is most active; hence free recourse to visible and tangible objects should be had. *a.* Give the child something that he can see and handle. *b.* Require him to *reproduce* in his mind his ideas of that which was seen and handled. *c.* Require him to drop the object from mind and retain only the attribute (number) and to reflect upon this attribute and the various relations which it may sustain. *d.* Lead him to see that back of, and prior to, all objects and operations, there must be certain *truths* which condition both the objects and the operations. Thus the faculties of Perception, Conception, Reflection and Intuition are cultured in the order of their development. Toward the close of this course all of these faculties should receive attention daily, not only in the lessons on *Number*, but also in lessons upon other subjects in which the pupil is not receiving instruction.

Remark 2. The writer is conscious that the "course' herewith submitted is imperfect in many respects, but his object has been to present in a condensed form an outline which may serve as a foundation for subsequent work, by:—

1. Supplying data.

a. Ideas of number and their representation.

b. Ideas of operation upon numbers and the representation of those operations.

c. Definition of terms.

d. Ideas of the principles which condition operations.

2. Forming in the pupil, habits of *accuracy*, *rapidity*, and *neatness.*

N. NEWBY.

AGASSIZ'S WORK.

It is perhaps somewhat early to attempt an estimate of Agassiz's work—time alone can reveal its full value. But it is not too soon to notice some of the results already achieved. First and chief among his earlier achievements was his modification of the celebrated classification of Cuvier, and its reduction to a true scientific basis. His thought, which he patiently wrought out, was that classification is not a convention of men, but a thing inherent in the constitution of animals, and therefore as fixed and changeless as the Creative power itself. He recognized in the work of Cuvier the true basis, but applying rigidly the principle therein developed, he has placed the whole grouping of animals above scientific criticism.

His earlier researches, those in which he first acquired fame, in fossil ichthyology, prepared him especially for his work. It is hard to say in which we recognize the greater genius, in him who first struck out the way, or in him who, modifying slightly the course, found it to be the *only way*, the unalterable law of nature herself. Agassiz was the first who pointed out the true movement of glaciers: fixing the stakes, perfectly aligned, deep in the surface, he returned the following summer to find the stakes crescent shaped; those in the center having moved faster than those at the edge, showing the perfect analogy between the movements of a glacier and a river. He thus prepared the way for the more thorough and scientific studies of Prof. Tyndall at a subsequent date.

His "Contributions to the Natural History of North America" is a work projected on a grand scale, but left unfinished at his death. This is a work, however, which any accomplished zoologist can carry on, since it involves nothing but accurate knowledge and patient work. Aside from his published works and public acts, there remains a still greater and more enduring success. This was his personal influence. His students profited not so much from his teaching, nor yet from his example, as from the enthusiasm which his presence and personal magnetism inspired. His was a great intellect, but had also a greater heart, a more active sympathy, a nobler enthusiasm. From these fountains his students drank. Cæsar, with a pardonable egotism tells how, when in Gaul, his army was surprised and the battle going against him, but himself stripping a soldier of his shield and calling the Centurion by name, pushed by into the midst of of the fray, that each one fighting under the eyes of his commander left nothing of valor undone which was in his power. So those about Agassiz seemed to leave nothing undone to accomplish everything possible. There was no secret in this remarkable influence, it was the natural outgrowth of his deep reverence for truth, his blameless life, and his lofty veneration for the Infinite Wisdom.

His was a pure love for Science. He steadily refused to do anything for money's sake. "Whenever it pays, hundreds will be found to pursue it," was the

substance of his replies to all attempts to make his name and knowledge a marketable commodity.

Surely few will be found to take his place; but in his work, in the memories of those who knew him, he still lives. *H. W. W.*

WONDERS OF MICROSCOPY.

BY HENRY JAMESON, M. D.

The object of this contribution, and of those which may succeed it upon the same theme, is not a systematic or rigid treatment of the laws and developments of microscopy. That would be a very ambitious undertaking, unsuited to your limited space or to the object in view, and unnecessary because of the meritorious text-books and works of reference that have been given the world upon the subject. In the language of the illustrious Agassiz, to his pupils at Penikese, the aim here is, not to teach, but to stimulate inquiry and lead the reader to investigate and observe.

The microscope, as your readers need hardly be told, is an arrangement of lenses by which optical laws are utilized for making apparent to the eye and intelligence that which is too minute for the unaided vision. Not a great many years ago the use of the microscope was confined to the wise few; while by the unscholastic many it was simply regarded as an ingenious and entertaining contrivance capable of producing fantastic effects, but of little practical benefit or utility—a toy to amuse, rather than a key capable of unlocking the doors of mystery and unfolding the laws of life. But the more general use of this instrument in recent years is a notable illustration, a measure in fact of the vastly increased popular interest in scientific subjects and of popular familiarity with scientific facts. Truth is no longer left "to droop in the cloister or wither in the Doctor's study, but she has become familiar with the multitude." She has ceased to be the exclusive patron of the savan, but exerts a widely diffused influence in promoting the interest of mankind.

In Natural History the microscope has performed a great service in revealing otherwise imperceptible characteristics, thereby disclosing structural affinities and rendering classification possible, where Science must else have been held at bay.

In medical science it has come to be an adjunct of indispensable importance; under its searching gaze the blood tells the unerring story of the patient's bodily state, the secretions describe the disease at their source.

In the courts of criminal law it serves the cause of justice. A prisoner is arraigned upon the charge of murder. A garment belonging to him is produced, bearing a suspicious stain. Was it or was it not caused by the blood of the victim? If we could ascertain whether the stain was caused by the blood of a man or a beast; or whether it be not something else, the question of the guilt or innocence of the accused could be determined. The microscope is consulted, and settles the question with that certainty which characterizes the expositions of nature.

It is in her infinitessimal phases that nature is most wonderful and instructive; and here is the field of the microscope. In a word, every form of terrestrial matter yields up the mystery of its structure to the revealing power of the wonderful instrument.

To the unaided eye the substance may present an insurmountable barrier, or uninteresting blank. The minutest portion of it, placed upon the stage of the microscope is suddenly endowed with the voice of explanation, and the story of its nature and structure is borne by the instrument to that great sensorium—the brain.

> "We are reaching through His laws,
> To the garment-hem of Cause
> Light of all our light the Source
> Life of life and Force of force."

The power which may be attained in the microscope by the proper construction and combination of its various parts is bewilderingly vast, and the attempt to express it is like losing the mind in an illimitable expanse of figures. But the eye at least can take in the array, though the mind appreciate it not; and a bit of mathematics may not be unprofitable in this connection. Our aim can best be served by employing some of the objects which are prepared especially for trying the power and excellence of the instrument. These objects are sometimes prepared from *Diatomaceae* or silicious *animalcula* which have a beautiful series of markings or lines upon them so infinitely small that it is almost as difficult for us to conceive of their size as it would be, on the other hand, to comprehend space or eternity.

Mr. Webb, of London, has recently replaced these natural objects by a series of engravings upon glass, and so wonderful are they that it is only necessary to state, (in terms which are mathematically accurate,) their dimensions, to illustrate the great accuracy and skill displayed in executing these engravings and the great resolving power of the lens. Each engraving is of the Lord's prayer, varying only in size, commencing about the thousandth of an inch, which is at the rate of over a quarter of a million letters to the inch, and progressively decreasing the size; the next of the series being at the rate of a million letters to the inch; the next two, three, and so on down to four million letters to the inch.

Having reached this point, and finding the Old and New Testament together consist of three million five hundred and sixty-six thousand four hundred and eighty letters, (for convenience of standpoint,) he says the hastily enumerated test is at the rate of one Bible to the inch, and then engraves the next at the rate of two, three, and so on down until he has reached fifteen Bibles to the inch, or at the rate of fifty-three million four hundred and ninety-seven thousand two hundred letters to the inch. But when it is remembered that the letters are written within two parallel lines, with spaces above and below for long letters, and to enable one line to be distinguishable from another, "we would respectfully submit that such letters as 'a,' 'e' and 'o' being averaged with all other

letters, spaces, etc., it may be taken that the 'e' actually occupies only one-fourth of the average, or the two hundred and thirteen million nine hundred and eighty-eight thousand and eight hundredth part of an inch."

The measurement does not stop here, as other steps are to be taken—the dot of the "i" being one, and the "e," which is not a spot of black, of the previously estimated less than two hundred millionth of an inch, but composed of the curved and cross line bearing the proper proportions to each other.

After having carried these letters to a size completely beyond the power of the mind to comprehend, we not only see them well defined and read them, but the lines making these infinitessimal letters may be resolved and their different parts examined; and taking the line at a lineal fifth of the space, the two hundred millionth would have to be multiplied by twenty-five as the square of five, which would bring the square of the line down to the five billion three hundred and twenty-nine million seven hundred and twenty thousandth part of an inch, and yet we continue the measurement, for the line itself is loaded in with black atoms at the rate of twenty atoms to the square of the line, and would consequently become the hundred billionth of an inch.

This may be more readily understood if we imagine one of these letters to be engraved upon the surface of a glass crystal one inch in diameter, and suppose the crystal and letter to increase proportionately until the crystal has reached the dimensions of the globe upon which we live, then would one of these little black atoms only have reached the dimensions of little over half an inch, and yet these black atoms may be distinctly seen and counted by the aid of a first-class instrument.

But introductory generalization has occupied all the space at our disposal in this number, and to our next must be deferred the initiation of the specific observations purposed.

SPECIAL CORRESPONDENCE.

LAPWAI, Nez Perces Nation, Idaho Territory.

EDITORS OF THE EDUCATIONIST:—After many days travel by land and by sea, I find myself quietly located in the valley of the Clear Water. Lapwai is a cozy little nook, surrounded by snow capped mountains. The scenery is picturesque, yet it so nestles among the hills that it has one of the finest climates in the world. Wild flowers have been in bloom and gardens have been made at least two weeks since.

Shut out from all the wide, wide world, except a tri-weekly mail, I find it a glorous place to rest, to eat, to sleep, to fish, to hunt, to roam in nature's wildness; in a word to live comfortably and take life quietly.

As I promised to send you some "jottings by the way," on educational matters, I will commence at the beginning. Leaving Indianapolis Tuesday evening January 6th, I hoped to make close connections at Omaha, and reach Salt Lake City Saturday evening, but being detained by a railroad accident, I was compelled to remain at Omaha over Sabbath. This gave me an opportunity to visit the public schools, and I thus spent one entire day both pleasantly and profitably. The superintendent A. F. Nightingale is an eastern man, little in body, but seemingly large in mental powers. The Central School House, or High School building, is situated on Capitol Hill, and is one of the finest school houses in the west, having cost $200,000. Omaha has a school attendance of near 2,000 children. The teachers' corps numbers 32. The graded system has only been in operation two years, yet, as far as I examined the workings of the schools, they will compare favorably with those older. The teachers seem competent and energetic. The secret of success in the Omaha schools can be traced to two things: first, the high standard of qualification required of the teacher; second, the high salaries paid to secure the required talent. The lowest salary paid any lady teacher is $650 per year of ten months.

My next point of observation was Salt Lake City. I spent the most of two days in the schools of this city. Utah has no public school system. There is not a public free school in the territory. Corrine, the only Gentile town in the territory, is making an effort to secure a fund to support a free school. But in what way? It is doubtful whether there is enough Yankee in a "Hoosier schoolmaster," to guess the plan adopted. It is by a grand lottery scheme of $500,000. The prizes amount to $300,000 in cash giving a balance of $200,000 in case all all the tickets are sold. Verily, verily do the ends, sanctify the means? The leaders of the Mormons are openly opposed to a system of public schools; they fear that if such a system is introduced, they will have difficulty in controlling it, and therefore they wish to keep the schools under church control. The city is divided into about twenty wards or districts: in each ward there is a church building which is also used as a school house. The bishop and counsellors of each ward appoint the teacher. The patrons pay tuition ranging from $15 to $30 per year. The teacher collects his own bills and assumes all risks as to salary. If there are any poor in the ward that are not able to pay tuition the church pays it. The schools are of a low grade in regard to discipline, system and thoroughness. Any master who desires to find out new methods of school affairs, can do so by visiting the Mormon school, in Salt Lake City. The Episcopalians and Methodists have each a flourishing school. The former under Prof. Turner has enrolled about three hundred pupils, the latter under Prof. Stein about two hundred; these schools in scholarship and moral tone are much superior to the others. The Presbyterians hope to be able to to start a school next fall. There is among the Mormons a growing spirit of independent thought that leads them to patronize out side schools of superior grade. A visit to the Mormon legislature does not inspire the stranger with confidence in regard to the future of

the territory in educational matters. It is impossible for water to rise higher than its source.

The San Francisco schools are worthy of commendation. We spent a very pleasant time in visiting them, thanks to the kindness of Prof. Knowlton, Principal of Rincon Girls Grammar School, and Prof. Wilson, Principal of the Lincoln Boys Grammar School. The sexes are kept separated in most of the schools, a state of things that might have been necessary in former years, in view of the reckless character of society as it then existed, but is certainly not desirable now. I was struck with the apparent freedom from that system of red tape that so often makes the public school system a burden to teacher as well as taught. The salaries of the teachers in California are much higher than east of the mountains. The lowest salary paid in San Francisco is $700. Ladies' salaries range from $700 to $1500; those of gentlemen from $1200 to $2500 in gold.

Hon. H. A. Bolander is the State Superintendent of Public Instruction. I found him a pleasant gentle man, a German by birth, and deeply interested in the educational interests of his State. He said the great want was well qualified teachers, and that the State could not furnish enough to supply the demand.

I visited several schools in which the Chinese were taught English. Teaching the Chinamen is a tedious process, as it has to be done individually, and not in classes as with the white race. In one of these schools I spent at least ten minutes in teaching one of the scholars to pronounce the word baby. He could manage words of one syllable, but words of two syllables were almost too much for him. I also visited their stores, workshops, and Joss houses, or temples. Their worship is not only absurd, but sometimes quite amusing. I dined at one of their fashionable restaurants. The cooking was very peculiar. There was not a dish on the table that I recognized, yet it was all not only palatable but quite savory. I can not understand why there is such a prejudice on this coast against the Chinese. They are a quiet, peaceable, hard-working race, and if they would leave the country their absence would be a serious detriment.

I did not stop long enough in Oregon to visit the schools, and therefore can not speak definitely in regard to them; but from what I could learn from others they are far behind those in California. The salaries paid are entirely inadequate to secure good talent. or encourage the development of talent in that direction.

But I must bid you "tats-ka-la-nit," which is the Nez Perces for good evening, as my friend has just informed me that there is an Indian wedding about to take place, and he wishes me to see the performance.

My next will give you some of my experience and observations of Indian life. *J. M. COYNER*

Feb. 1874.

THE simple deem that they complete their education in six or eight years, but the wise question whether theirs is terminated even by death.

School Officers' Department.

SCHOOL TRUSTEES.

THEIR QUALIFICATIONS.

The main requisites for School Trustees will be found to be GOOD COMMON SENSE, sound discretion, decision of character, and intelligent purpose. Patience and love of the township generally, must be well cultivated. His duties are varied. He must make all his calculations to suit the purse; and the law never compels him, in making any improvement, to go beyond his means. By this consideration he determines what price he can pay teachers and what shall be the

LENGTH OF SCHOOL TERM.

The time of continuance of school depends on two considerations. While Section 8, School Laws, forbids any contract based on anticipated apportionments, it is not understood to apply to tax he has levied for tuition. He is not supposed to know what he will receive by *apportionment*, and a contract cannot be safely made on it in advance. Not so in reference to the tax he has levied for his township. He can tell very nearly what he may expect, and when it will be received. If he is desirous to keep up schools on the most economical plan for the township, he will keep the schools in session *in anticipation of this tax*. It is possible for one who loves the use of money to let these funds accumulate to the disadvantage of the schools. Just at this stage of his experience it takes a larger organ of benevolence and conscientiousness to enable him to do *exactly right*. I submit the subject for careful consideration. It is very hard for some men to have the care of *money* for a *time* without using it. But I would not for a moment suppose that any who read this would speculate on *public school funds*. It is the children's money.

SCHOOL AUTHORITY AND ORDER.

Section 10 clothes the Trustee with plenary powers. Holding the purse to pay for service, and employing the teachers, he, of necessity, must be an authority to which teachers must be subordinate. Care should then be timely taken to caution teachers in relation to their regulations and government, that each may become a support to the other. In Township Institutes there is a favorable opportunity for teachers and Trustees to become well acquainted with each others' views in these respects. Should a teacher undertake to enforce regulations which will not have the support of the Trustee, he must fail, for the Trustee is *authority* for all he does. The Director is a middle man, and is also a subordinate.

When a teacher has submitted his rules of order and methods of instruction to the Trustee, and has his approval, he is in the most favorable condition for success. He then understands himself, and when neighborhood criticisms occur, he can act with firmness and composure, knowing that what he has done will meet the approval of the Trustee. *PARKE.*

CIRCULAR TO COUNTY SUPERINTENDENTS.

The State Board of Education respectfully request of the Superintendents the observance of the following

RULES FOR EXAMINATION.

1. That these questions be used ONLY on the last Saturday of the month.
2. That during the examination all maps, globes or other aids be carefully removed from the observation of the candidates.
3. The writing of the candidates should be done in every case with pen and ink, to prevent erasures and changes.
4. All conversation or communication should be absolutely forbidden during an examination.
5. No person should be permitted to see the questions, except such as intend to be examined, until the examination is over.
6. A specific time should be allowed for the preparation of the answers upon each subject. The time must be determined by the observation and experience of the Superintendents.
7. All books and papers should be carefully moved from the desks when the candidates are examined. No trial papers should be used. If the printed lists are used they should be divided, so that no opportunity or temptation shall be given to applicants to refresh their minds at recess by reference to authorities.
8. Do not permit the candidates to ask questions. If they have any doubts as to the meaning of any question let them be offered in writing, so that the Superintendent may examine them when he examines the answers to the questions.
9. If any corrections are necessary the candidate shall not erase, but draw a single mark over the amended error, that the Superintendent may see the error as well as the correction.
10. These rules should be given to the candidates before entering upon the examination.

CIRCULAR OF STATE BOARD OF EDUCATION.

To County Superintendents and City Superintendents:

GENTLEMEN:—The State Board of Education would respectfully direct your attention to the fact that arrangements have been made by the Trustees of the Indiana State University which enable a student who has taken a specified course of study in any recognized High School to enter the Freshman class of the University without a further examination. This plan enables the child entering the primary school to advance systematically through the entire course of the Public School System of the State.

Owing to the want of adaptation between the courses of study of the High School and the University, heretofore, there have been but comparatively few students sent from the former to the latter. In order to stimulate the High Schools to the preparation of students for a higher course, and to increase the number of Collegians in the State, this Board recommended the plan of a continuous course of study, the Convention of City and Town Superintendents approved the design, and the Trustees of the University adopted it. By this arrangement High Schools have been commissioned by this Board to prepare students for College. We now respectfully request you to lend your active co-operation and assistance in perfecting the plan by doing all in your power to increase the number and the efficiency of the High Schools, and to encourage students to secure a higher course of literary and scientific culture. Anything that you may accomplish in this direction will be in the line of your official duty; of great advantage to the individual, and of incalculable benefit to the Commonwealth.

If further information is desired, it may be secured by reference to the Hon. M. B. Hopkins, State Superintendent, or to Dr. C. Nutt, President of the State University, Bloomington, Ind.

Educational Intelligence.

We desire to give, as fully as our space will allow, the latest educational news of our own State, and hope our friends will afford us the necessary information. Notice of the time and place of all meetings of an educational character, together with changes of school officers, etc., etc., will be gladly received.

——The Winnebago County (Ill-) Institute will be held four days, commencing March 31. Mrs. Mary L. Carpenter, County Superintendent.

——The Posey County (Ind.) Institute will be held five days, commencing March 30. A large attendance is expected. Jas. B. Campbell, Co. Superintendent.

——The State Board of Education last week appointed a committee to consider and report to the next meeting on the propriety of taking suitable steps for securing for the State a Superintendent of Art Education.

——Special attention of County Superintendents and Township Trustees is directed to the School Officers' Department. The circulars of the State Board of Education are of particular interest to the former, while the communication of Hon. B. C. Hobbs will be read with profit by all.

——The State Board of Education at its recent session elected Trustees of the State University as follows: John R. Elder, Esq., Indianapolis, to succeed Dr. William Hannaman; Hon. John I. Morrison, Knightstown, to succeed Hon. B. L. Rhoades, resigned. Rev. J. S. Irwin, of Ft. Wayne, was re-elected. Messrs. Elder and Irwin were elected to serve four years.

——If County Superintendents or other friends of Education will send us copies of newspapers containing educational columns, or the names of papers that publish such columns, we shall be glad to publish a complete list of the same. It would probably surprise our readers to know how much of this work is being done. We shall be glad at least to inform them if the facts can be furnished us.

——Dear Editors:—The Educationist always comes with something new and good. The last number contained much profitable reading which, when read, must be appreciated. The public schools of this county are rapidly drawing to a close. The number of days in the different townships is about as follows: Jefferson, 115; Craig, 110; Cotton, 130; Posey, 81; York, 80; Pleasant, 120. The Vevay Graded School will close about the middle of May. Prof. Thomas Harrison has promised to deliver an educational address to the citizens of Vevay, in behalf of the schools here. The new system of selecting teachers has worked admirably throughout this county. Only a few districts have been inclined to dissent. More anon.

P. T. HARTFORD.

Vevay, March 14, 1874.

——The Board of Trustees of Elkhart sometime since appointed a committee to attend the examinations of the schools. The committee discharged the duty and through its President, C. H. Chase, made to the Board a very readable report of its observations. We give the closing paragraph:

"In closing this report, your committee take great pleasure in saying that it is doubtful if a better or more economical system of public instruction exists in the State of Indiana than Elkhart is blessed with, and we heartily commend the good judgment of your Board. The Superintendent and teachers you have engaged are worthy the utmost confidence of this community, and it should be the pride as it is the duty of every parent in Elkhart to second their efforts in the education and discipline of our children."

——Messrs. Editors:—The following is our report for February:

No. of days attendance	7605
" " " absence	330
" pupils enrolled	468
Average number belonging	380.5
" daily attendance	366.3
Percent of "	95.7
Number of tardiness	101
Time lost by "	4 hr 15
No. of different pupils tardy	36
" not absent	217
" not tardy	334
" neither tardy nor absent	184
" of visits	135

We think we are getting along nicely and efficiently. The patronage co-operates, and our attendance is more regular than ever before in this school. Our penalty for four half-day's absence is grading back into a lower class, and this seems almost to work miracles out of some of our boys. We think we have a corps of good teachers.

J. L. RIPPETOE, Sup't.

Connersville, March 13, 1874.

——Editors of the Educationist:—Below I send you a copy, word for word and letter for letter, of a letter received from a teacher wanting a school. Of course all names are omitted.

Sept 12 '173

"Dr Sr I understood that you wanted teachers for your public school i did not intend to teach this winter i have no certificate for this winter i have a certificate for last winter Mr—— i understood that he made application partialy for one of your public schools he can recomend me to you County Examination is held 27th of Sept and i intend to be examined, if you will acomodate me with a school in your T. P. i will teach you as good school as i can i would like to heare from you as soon as possible so that i can make preperation for another school if you write to me write on what terms you want teachers to teach and when you want your schools to commence i would like to heare from you by the 27th Yours Truly

—, —. ——— Esq'

In the above letter the writer discards the use of capital letters almost entirely. I will follow this with a petition for the dismissal of a teacher in which the writer uses capital letters and titles very profusely. I would like to see these in print. It might be a lesson to aspiring pedagogues.

To his excellency The Hon — — ——— Trustee of ———Township We the undersigned citizens of District No— in said township Respectfully Petition your Honor That the Teacher you have put in our school we consider incompetent & neglect of duty to teach our school and request a change of teachers immediately and we will Pray

——From Supt. Ewing's report of the South Bend public schools for the month of February we take the following: No, of pupils enrolled, 1223; average number belonging, 1144; average daily attendance, 1063; percent of attendance, 92.9; No of cases of tardiness, 338; No neither absent nor tardy, 390; No. of visitors, 312.

The prize chromos for punctuality and attendance are distributed for this month as follows:

Miss Lizzie Robinson, of the upper intermediate dept. Madison building, the first; Miss Emma Edwards, of the grammar dept. same building, second; Miss Bessie McNeish, of the primary dept. Laurel building, the third; and Miss Emma J. Spencer, of the lower intermediate, same building, the fourth.

D. A. EWING, Sup't.

——Editors Educationist:—We are still on the war-path in Kosciusko county, and nothing other than an unconditional surrender will answer our purpose. We have one hundred and fifty-five schools in this county, and employ one hundred and seventy-five teachers. Our schools are generally closing, and I must say have given good satisfaction. I have visited the majority of our schools, and can report progress. The teachers have system, and consequently work to some purpose. Our institutes are well attended generally, and we can discriminate between those who attend and those that do not. I think that we are doing well, and in general there is harmony and satisfaction in this county, and not as many complaints as was formerly the case. I like the Educationist for its free and-easy manner of dealing with facts—life and energy is what we want. We want more living thought in this advanced day and age of the world. We want an education that will keep pace with railroads, telegraphs and ocean steamers. Success to the Educationist. May its editors have the pen of a ready writer, etc.

W. L. MATTHEWS. Co. Sup't,

Warsaw, March 10, 1874.

——Sup't. J. K. Walts, of the Elkhart public schools, reports for the month of February, 1874:

Whole No. of pupils enrolled since Sept	1,085
No. Enrolled this month	936
No. Remaining at this date	844
Average No belonging	863
Average daily attendance	805
Per Cent. of Attendance	98 3
No. Cases of tardiness	109
Time lost by tardiness	13 43
No. pupils not tardy	831
No. of pupils not absent	409
No. of pupils neither tardy nor absent	381
No. visits to Schools	1,401
No. teachers	16
Average No. belonging to teacher	53.9

The daily attendance is 86 per cent. of the number enrolled. The whole number enrolled, 1,085, is 78 1-2 per cent. of the enumeration taken last May. We doubt if many towns or cities in Indiana can say as much. The average attendance is just the same as last month, 805.

——EDITORS OF THE EDUCATIONIST:—I have read with interest, Messrs. Kirkpatrick's and Dobson's remarks in your February number on the subject of Township Institutes, and am constrained to add a few suggestions of my own.

Our Township Institutes here have been very successful. The large school-room of the Academy has been crowded on nearly every occasion, by the best class of our population, and almost without exception, every teacher has been present. Where any one has been absent without the proper excuse, I have deducted from his salary, and when one was absent a half day, I have made a corresponding reduction. Teachers from adjoining Townships have attended almost as regularly as our own. But I think I can prepare a programme better in two weeks consultation with the teachers, than a committee can in ten minutes. I have made the preparation of the programme a matter of care and labor, and have been rewarded accordingly. No teacher has been *required* to take any assigned part in a programme. We have gone wholly on the voluntary principle, with the best results. We have aimed to be practical rather than theoretical—useful rather than ornamental. In Physiology, some of our best physicians have delivered short lectures; one on Digestion, another on Respiration, etc., aiming to adapt their remarks to the audience. I published the programme two weeks in the local paper. I have tried the no-institute and the institute plan, in the last five years, and have seen such astonishing good flow from the Township Institutes, that I unhesitatingly add my voice in their behalf. In practical good, I would put them before County Institutes. But why do Hendricks County school officers pay male teachers more than females? Perhaps they are better teachers. If so—all right. But surely we should pay an honest price for an honest day's work, and I must commend our Madison County plan, of paying teachers according to the general average in the license, without any reference to sex. In fact, it has sometimes happened that we have paid females more than males in this township, because they did better work.

J. B. LEWIS Trustee,
Fall Creek Tp. Madison Co.

——Does the *Chicago Teacher* use the phrase "As dead as a door nail," as an elegant expression, such as an instructor should put into the mouths of the rising generation? Query.

——EDITORS EDUCATIONIST:—Our success in the Fountain county schools this year is far better than the most sanguine dared to hope. We have 106 schools, omitting incorporated towns, and employ 110 teachers, at prices ranging from $1.68 to $2.55 for males, and from $1.70 to $2.45 for females. The average prices paid males is $1.99, females, $2.05. Our school term in the rural districts averaged only 82 days, but will reach at least 120 next year. Our schools have generally made fine progress in grading, and the school that has done nothing in that direction is hard to find. We have made rapid strides toward unformity in our school work, and have awakened such an interest in education as was never known before in this county. Our first Township Graded School opened this year, and we hope to have at least two more open next year. Our township house was built in Newtown. It is a neat, substantial, two-story brick, 40x50 feet, containing four rooms neatly furnished, the upper rooms communicating by folding doors, and all at a cost of between $6,000 and $7,000. The general success of our township institutes has been good, and they have done much towards unifying our school work; so much indeed that there is a very striking similarity found among the schools of each township. I have examined 94 applicants, with the following result: Licensed—1st Grade, 7; 2d Grade, 13; 3d Grade, 27; 4th Grade, 13; Total, 60; Refused, 34. Our County Board agreed to pay teachers on the grade of certificate, ranging from $1.60 to $2.66⅔ per diem; $2.00 being the maximum paid for first-class license issued by the former examiner. This accounts for our average wages being so low, but we purpose paying as good wages as other counties as soon as we get the grade of teachers meriting good wages.

Below I give a table of the salaries paid in our town schools:

ATTICA.

MALES.

1	at $1,100	$1,100 00
1	" 405	405 00
2		$1,505 00

FEMALES.

1	at $800	$800 00
1	" 450	450 00
2	" 405	810 00
3	" 360	1080 00
7		$3,140 00

COVINGTON.

MALES.

1	at $810	$810 00

FEMALES.

5	at $360	1800 00

We invite the attention of teachers to our field of labor for next year, and say to those looking for a location, you will meet with a hearty welcome in Fountain county. *JAMES A. YOUNG, Sup't Fountain Co.*

QUESTIONS FOR THE EXAMINATION OF TEACHERS.

PREPARED BY THE STATE BOARD OF EDUCATION.

ARITHMETIC.

1. How many ways are there of expressing numbers, and which is most generally used?
2. What is a prime number? Write the prime numbers from 1 to 100
3. State the difference between a common fraction and a decimal fraction.
4. From one take one-millionth.
5. Reduce two-thirds, three-fourths, nine-tenths, seven-eighths and four-fifths to equivalent fractions having the least common denominator, and explain the process.
6. What is the difference between a simple number and a compound number?
7. If 7¼ cords of wood cost $30, what will 8.3 cords cost?
8. How many gallons of water will a boiler hold whose shape is that of a half sphere, 15 inches in diameter?
9. When gold is quoted at 112½, how much gold can be bought for $1836.00 in currency?
10. A boy flying his kite found that he had let out 210 feet of the string, when the kite lodged upon the top of a flag pole, whose height was 91.53 feet. Required the distance of the boy from the foot of the flag pole.

PHYSIOLOGY.

1. What organs secrete gastric juice?
2. What is the effect of perspiration?
3. Name the nerves of special sense.
4. Describe the spinal column—its structure and functions.
5. How is physical motion in man produced?

THEORY AND PRACTICE.

1. What is the distinction between moral and religious training?
2. State the relation of the teacher to the parent.
3. State the relation of the teacher to the State.
4. Why is the communication of children in school by whispering undesirable? How may it be prevented?
5. What would you mean by requesting pupils to *study* a reading lesson?

U. S. HISTORY.

1. When was Indiana admitted to the Union as a State?
2. What States were admitted to the Union during Washington's administration?
3. What territory comprised the Louisiana purchase?
4. What was the reason for the purchase of the Louisiana territory?
5. What were the immediate causes of the civil war?
6. What were the *real* causes of the civil war?
7. What were the causes of the nullification of South Carolina in Jackson's administration?
8. What doctrine was held by some of the States in regard to their relation to the general government in respect to the final authority of the latter over the former?
9. What important political events of Buchanan's administration?
10. Name the Presidents, in the order of their election, beginning with the first.

GRAMMAR.

1. What is the difference between synthesis and analysis?
2. Parse "that" in the following sentences:
   "The days that are past are gone forever."
   "That book is new."
   "Live well that you may die well."
3. What is meant by the conjugation of a verb?
4. Define a participle. Illustrate.
5. "I am he whom you seek" Parse whom.
6. Give plural of the following words:
   "Son-in-law," "Me," "Mr," "German," "Mousetrap."
7. When is it proper to use "My" as the possessive of "I," and when "mine?" Illustrate.
8. Which of the following sentences is correct, and why?
   "Though man be a sinner, yet God is merciful to him."
   "Though man is a sinner, yet God is merciful to him."
9. When should "*shall*" and when should "*will*" be used in the future tense?
10. Analyse, in full,
    "If I had been invited I should have gone."

GEOGRAPHY.

1. Why do different places in the same latitude differ in climate?
2. Which is the longer, the polar or the equatorial diameter of the earth? How much?
3. Name the States of the United States washed by the Atlantic Ocean, in their order, commencing at the north.
4. Name the four great rivers of North America that drain the continent, emptying the water in four different directions.
5. What are the "trade winds" and in what directions do they blow?
6. What point on the earth's surface has neither latitude nor longitude? Why?
7. Describe the mountain systems of South America.
8. Name ten seas that border upon Asia.
9. Name five peninsulas in North America.
10. Name the five great Lakes of North America, in order of size.

MILTON B. HOPKINS, Pres't of Board.

A. C. SHORTRIDGE, Sec'y.

——An interesting meeting of Western School Superintendents was held in this city on the 11th, 12th, and 13th inst. A number of important subjects were discussed, among which were, The services and pay of janitors; The size of school buildings; How to make a Superintendent's visits to schools most profitable; What is included under ordinary or incidental expenses of school system; How fill temporary vacancies occasioned by the illness of teachers; The value and work to be done in teachers' meetings; The courses of study for district schools; the course for high schools; How to obtain strong teachers, and how to strengthen them after they are obtained; When and how shall pupils be examined for promotion. The Superintendents spent the forenoons of Thursday and Friday visiting the public schools, and the afternoons and evenings in the discussion of appropriate subjects. There were present from Illinois, Superintendents Powell of Aurora, Gastman of Decatur, Dow of Peoria, and Moore of Charleston. From Michigan, Superintendent Tarbell of Saginaw. From Indiana, Superintendents Cooper of Richmond, Shepard of Logansport, Wiley of Terre Haute, Smart of Ft. Wayne, Gow of Evansville, and G. P. Brown, J. J. Mills, J. H. Brown, H. L. Rust, G. W. Bass, A. C. Shortridge, and Misses Cropsey, Anderson, Williams and Morris of Indianapolis.

Our Book Table.

THE FANCIERS' JOURNAL AND POULTRY EXCHANGE is one of the liveliest and most interesting poultry journals published in the country. Weekly, price $2.50. Address, Joseph M. Wade, 39 North Ninth street, Philadelphia, Pa.

WE call attention to the specimen copies from Miss Haworth's System of Penmanship, published in this number. One of its chief peculiarities and, as it seems to us, excellencies, is that the copies are furnished to the pupils, bound in book form and in a substantial manner, having a single copy on a page. Copy-books are dispensed with, it being the design that pupils shall use books made of common foolscap paper, and that they shall be trained to depend upon the eye and not upon the double ruling for the relative height of the letters and column ruling for the spaciug. This, it is argued, will give more freedom of movement. By this arrangement, also, the copy can always be kept near the line which the pupil is writing, and the pupil can be required to practice it as long or as short a time as the teacher deems proper, and to review as often as is necessary. The copy slips of which these are samples, are intended for pupils over eight or ten years of age. A primary series will soon be published.

These slips are particularly adapted to district schools, and it is here that their merits will be fully appreciated. We understand that they are being used by the teachers of this county with eminent success. It seems to us that Miss Haworth's thought is an excellent one, and that much expense will be saved by the use of her copies, and quite as good work done as by the use of the copy books now so prevalent.

Any information concerning terms for introduction, &c., can be obtained by addressing Miss M. Haworth, Liberty, Ind.